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Abstract	**This contribution suggests some changes to the global header format as well as a format for the message body.**	
Purpose	This contribution proposes a message format for messages between network entities in the .16g specification.	
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Message Formats

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1 Introduction

This contribution makes a proposal to add a field to the global message header for messages exchanged between network entities in the Network Control and Management System. There is value in adopting such a generic approach to message exchange. The header normally identifies message type, source, destination, length, and optionally an origination time stamp.

Given the likelihood of future revisions on the 802.16g specifications, we propose the addition of a protocol revision field in the header.

Further, in light of the volume of messages that are likely to be exchanged between network entities, in order to support the full range of air-interface functionality, it would be advisable to seek some optimization in the format of the message body. Allowing certain fields to be omitted from messages when they are not needed usually does this. The mechanism we suggest is that of field designators that indicate the presence or absence of a field. The use of such a mechanism has been validated over many years of use in the industry. It is easy to maintain backward compatibility with this approach.

The only requirement imposed by the use of such an approach is the use of a mutually negotiated protocol revision. The parsing rules to enable information retrieval would depend on the protocol revision in use.

2 Proposals

- The use of message type field may be augmented to specify an associated protocol revision. As NCMS under .16g evolves, it is likely that messages of a given type will be augmented/reduced over time while preserving some basic functions. Associating a protocol revision with a message type at this early stage will future-proof the network protocols.
- For the message body, the basic approach is to use a single bit to specify whether or not a field designated in the corresponding revision of the standard is present in a message. A value of zero indicates the field (and associated sub-fields) is absent while a value of one indicates the field (and associated sub-fields) is present. The bit is positioned at the beginning of the field whose presence or absence is to be designated and fields, when present, are concatenated, in the order specified by the standard.
- We may preserve the overall length field in the global message header but use the approach above to minimize the actual length of the field.
- The time of generation of the message may be less important that the time at which specific air-interface events, such as the receipt of specific traffic or signaling frames. Thus we propose that time stamps be considered for inclusion within the message body based on need rather than in the message header.